



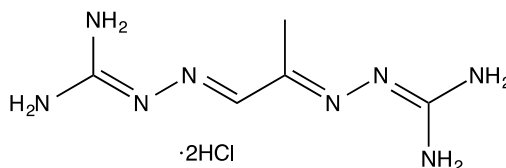
## Catalog # 10-4552

### Mitoguazone

CAS# 7059-23-6

MGBG, Methylglyoxal bis(guanyldihydrazone) dihydrochloride

Lot # FBA2026



Mitoguazone is a potent and reversible inhibitor of S-adenosylmethionine decarboxylase (SAMD or AdoMetDC).<sup>1,2</sup> SAMD is a component of the polyamine-biosynthetic pathway, thus inhibition may lead to changes in polyamine metabolism.<sup>3</sup> Mitoguazone has also been shown to inhibit diamine oxidase and induce spermidine/spermine N-acetyltransferase.<sup>4,5</sup> Mitoguazone has been looked at as a potential anti-cancer treatment because of its ability to inhibit polyamine synthesis.<sup>6</sup>

- 1) Williams-Ashman et al., (1972), *Methylglyoxal bis(guanyldihydrazone) as a potent inhibitor of mammalian and yeast S-adenosylmethionine decarboxylases*; *Biochem. Biophys. Res. Commun.* **46** 288
- 2) Corti et al., (1974), *Specific inhibition of enzymic decarboxylation of S-adenosylmethionine by methylglyoxal bis(guanyldihydrazone) and related substances*; *Biochem. J.* **139** 351
- 3) Williams-Ashman and Seidenfeld, (1986), *Aspects of the biochemical pharmacology of methylglyoxal bis(guanyldihydrazone)*; *Biochem. Pharmacol.* **35** 1217
- 4) Janne and Morris, (1984), *Inhibition of S-adenosylmethionine decarboxylase and diamine oxidase activities by analogues of methylglyoxal bis(guanyldihydrazone) and their cellular uptake during lymphocyte activation*; *Biochem. J.* **218** 947
- 5) Pegg et al., (1985) *Induction of spermidine/spermine N-acetyltransferase by methylglyoxal bis(guanyldihydrazone)* *Biochim. Biophys. Acta* **842** 111
- 6) Porter and Janne (2012) *Modulation of Antineoplastic Drug Action by Inhibitors of Polyamine Biosynthesis. In Inhibition of polyamine metabolism: Biological Significance and Basis for new Therapies*; McCann, Ed.; Elsevier; pp.203-248

### PHYSICAL DATA

Molecular Weight:	257.13
Molecular Formula:	C <sub>5</sub> H <sub>12</sub> N <sub>8</sub> ·2HCl
Purity:	>98% by HPLC
	NMR: (Conforms)
	High Res MS: <1ppm
Solubility:	Soluble in water (> 25 mg/mL) or DMSO (mg/ml).
Physical Description:	White solid
Storage and Stability:	Store as supplied at room temperature for up to 1 year from the date of purchase.

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